DOCUMENT RESUME

ED 430 929 SP 038 511

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TITLE Teacher as Inquiring Professional: Does This Help the Children To Raise Their Game? A Theoretical and Empirical Study; Preliminary Results.
PUB DATE 1999-04-00
NOTE 40p.; Paper presented at the Annual Meeting of the American Educational Research Association (Montreal, Quebec, Canada, April 19-23, 1999).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Achievement; *Action Research; Educational Improvement; Elementary Secondary Education; Foreign Countries; *Inquiry; Reflective Teaching; *School Effectiveness; *Teacher Effectiveness; Teachers; Teaching Skills
IDENTIFIERS *Reflective Thinking

ABSTRACT

This report argues that the most effective way to raise academic achievement is for teachers to become inquiring professionals with action-research and reflective-thinking skills. The report defines effectiveness and examines the views of various stakeholders about what qualities they value in school, arguing that effectiveness is a complex concept and only researchers can measure it correctly. Other stakeholders are concerned with different qualities and not with effectiveness. The paper argues that teacher effectiveness must be improved in order to help children achieve more. Teachers are distracted by pressures put on them by other stakeholders with different priorities. The report examines literature on school effectiveness stability and concludes that effectiveness is unstable. It discusses different ways to restore effectiveness and notes a lack of convincing evidence for the effectiveness of externally generated initiatives. The report argues that a significant element of efforts to restore and maintain effectiveness must be the evidence-based practices of inquiring school teachers and administrators. Interviews with 35 teachers who completed a program at Leeds Metropolitan University to teach them action-research skills found significant obstacles to the school improvement effort. The report describes individual initiatives to raise students achievement, which tend to restore or maintain effectiveness. It concludes that such measures are likely to please many stakeholders whose priorities are not effectiveness. Interim recommendations for school improvement are included. Contains 49 references. (SM)

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ED 430 929

LEEDS METROPOLITAN UNIVERSITY
School of Professional Education and Development

AERA 1999
Montreal

Paper for session 3.03

Teacher as Inquiring Professional:
Does this help the children to raise their game?
A theoretical and empirical study; preliminary results

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Executive Summary

This report develops the thesis that the most effective way in which to raise achievement in schools is by teachers becoming inquiring professionals having the skills of action research and reflective thinking. Specifically:

- **We define Effectiveness.**
- **In section 2.1 we examine the views of various stakeholders about what qualities they value in a school.**
- **We argue the point that effectiveness is a complex concept and that only researchers can come near to measuring it. Other stakeholders are concerned with different qualities and not with effectiveness.**
- **We argue that effectiveness is the aspect of schooling which teachers need to improve in order to assist children to achieve more. They are distracted in doing this by the pressures on them to satisfy stakeholders whose priorities are in other aspects of schooling.**
- **In section 2.2 we examine the literature on school effectiveness stability and draw the conclusion that effectiveness is unstable.**
- **We discuss different ways to restore effectiveness and find a significant lack of convincing evidence for the effectiveness of externally generated initiatives, using USA "Schoolwides" as an example.**
- **We argue that a significant element of the effort to restore and maintain effectiveness must be the evidence-based practices of inquiring teachers and administrators in schools.**
- **In section 3 we analyse 35 interviews with teachers who have undertaken a programme at Leeds Metropolitan University to induct them into the skills of action research.**
- **From the interviews we expose significant obstacles to the school improvement effort. These include OFSTED inspections.**
- **In section 3.3 we describe individual initiatives to raise pupils' achievements, which tend to restore or maintain effectiveness. We conclude that these measures are also likely to please many of the stakeholders whose priorities are not effectiveness**
- **We draw your attention to the interim recommendations for school improvement in section four.**

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A note about language:

This report is written in England. We have tried to be consistent in our language but it differs in many respects from American-English. The following translations from the conventions which we have adopted may be helpful:

English	**American**
Primary	Elementary
Secondary	High School
Pupil	Student
Leadership team	Administrators
Headteacher	Principal
Key stage 1	Education up to age 7
Key stage 2	Education 7- 11 years
Key stage 3	Education 11- 14 years
Key stage 4	Education 14- 16 years
OFSTED	Office for Standards in Education
DfEE	Department for Education and Employment
Special Measures	When a school has "Failed" an inspection and is set targets for improvement over a short time scale.
GCSE	External examination at age 16 years

Effectiveness is used in this paper to mean:

The extent to which a pupil achieves more than would be expected, taking into account his or her prior attainment and socio-economic background.

1. Introduction

1.1 School Effectiveness

We shall first investigate some of the literature on school effectiveness in order to know what various stakeholders prize about the schools with which they come into contact. We then argue that schools do not remain effective for long periods of time but that effectiveness is unstable. Finally we argue that, if we expect teachers to be technicians instead of inquiring professionals, schools will rapidly become ineffective. The first part of this report is therefore a theoretical investigation about effectiveness which will assist in the interpretation of the empirical evidence presented in the second part.

1.2 Managing the Raising of Achievement: encouraging teachers to inquire

In the second part of this report we discuss the results of an in-service programme for teachers, called "**Managing the Raising of Achievement**", run by the programme leaders at Leeds Metropolitan University in the School of Professional Education and Development. Most participants in this programme are self-funded and receive no time off for their studies. The programme aims to impart the skills of **action research** and **reflective journal keeping** as well as familiarising the participants with the literature on **school effectiveness and school improvement**. The programme occupies a full school year with ten, three hour, teaching sessions towards the beginning of the year; a term of intervention in the participants' schools which participants evaluate in the light of their performance indicators; and a series of final meetings at which participants make presentations of the outcomes of their research. The structure of the programme has evolved during the three years of its existence and now a grant from **the Teacher Training Agency** has enabled the university to interview all of the still-accessible participants (n=53) along with some triangulation interviews with other teachers in the same schools.

One performance indicator suggested to participants is that they should work "smarter and not harder". The reason for this is to try to avoid the possibility that teachers' interventions require them to take on extra commitments to add to the long hours which are commonly worked by classroom teachers.

Elliott (1993) describes action research as "monitoring actions performed with transformative or innovatory intent" p.178; sentiments echoed by Dadds (1998); and Selener (1997). Our programme aims at transformation of teachers and learners so that a constructive partnership of study is fostered. The programme leaders hope that the principal legacy of this will be the embedding of the skills of reflective practice and of action research in the profession to ensure that sustainable school improvement takes place, in which changes to practice are based securely on evidence.

1.3 Research methodology

This research is part of the action research project which should accompany any university teaching programme, and which here mirrors the action research which the participants in the programme (the respondents in most of the interviews) were carrying out in their own teaching programmes in school.

Evidence for the "realistic evaluation" of the programme [following the development of this methodology from Guba and Lincoln (1989); Easterby-Smith (1995); Patton (1997); Pawson and Tilley (1997); to Julnes, Mark and Henry (1998)] was gained from the interviews, and from the accounts which the participants wrote of their own research. These reports describe the interventions to raise achievement in the schools and the evaluation of the success of the interventions according to success criteria arising from performance indicators decided before the intervention was begun. In both levels of evaluation, however, we consider to be very important the ideas of "non-objective evaluation" [Patton (1997)], that is, looking for unforeseen effects which had not been objectives of the programme.

Lipsey and Wilson (1993) reviewed over 300 meta analyses of psychological, educational and behavioural interventions and found that 85% had effect sizes of +0.2 or greater, indicating that most interventions which are applied "work" to some extent. Some interventions, dictated from government level, never get applied before the next intervention takes over. This is also true in individual schools where the past is littered with procedures which have fallen into disuse but which have not fallen from the policy handbook. Any intervention might produce increased achievement if it is applied adequately, without it having any particular intrinsic merit or long term effect. This would particularly apply if it was in the form of extra provision to support pupils' learning. One of the most difficult aspects of this research has been to try to identify interventions which take place without causing the teacher extra work, which replace one less effective technique with a more effective one.

The grant from the Teacher Training Agency enabled a researcher to be engaged to interview the teachers, this had several advantages:

- The researcher was not connected with the teaching of the programme. She offered anonymity to the respondents, coding the tapes before transcription so that the identity of the respondent was not apparent. This enabled quite different points of view to be expressed to her than had been expressed to the programme leader out of loyalty and respect.
- The researcher's background was psychiatric nursing, not education. She was able to claim ignorance of the programme and of education jargon quite convincingly, although, as part of an extensive induction, she had followed an abbreviated version of the programme herself and was well aware of the issues.
- Her background and extensive experience of interviewing gave her skills to draw out the respondents and to organise the transcription with a high degree of professionalism.

- Her detachment from the programme teaching conferred an independence of view which produced valuable insights into what the respondents were saying.

Following the interviews, the researcher was herself interviewed by the leader of the programme to recover some of the non-verbal communications from the respondents and to give her independent impressions of the messages which were being received. Some interviews were face to face, others were conducted by telephone. The methodology relating to interviews is well known and will not be repeated here. We wish to stress that these are only the preliminary results of the research which is still in progress. To date 35 respondents (out of 53 participants) have been interviewed.

2. School effectiveness

We are now going to examine what is known from the research literature so far about school effectiveness because the programme at Leeds Metropolitan University is designed to raise it. Two aspects are important:

- The stability of school effectiveness: this appears to be subject to some random variation, well documented by major studies, which is illuminated by the interviews.
- What various agencies mean by "a good school": it becomes evident that this is little related to effectiveness.

2.1 What do we mean by "a good school"?

"Effectiveness" is a much talked-about concept which, by definition (see page four), is a sufficient condition for our nation's children to achieve more. We will argue that, whilst it is of crucial important to raise effectiveness, many observers cannot tell which schools are effective and that most of the differences in achievement between schools are not owing to differences in effectiveness. This means that the pressures on teachers from stakeholders are not necessarily to improve effectiveness but to address other factors.

Unfortunately different stakeholders mean different things when they talk about effectiveness, some equate "effective schools" with "good schools". Parents, children, researchers, politicians all speak different languages about schools. For example, Smith and Tomlinson (1989 p. 164) conclude that children's progress does not seem to correlate with enthusiasm for school, nor with the level of praise, although there is a negative correlation with the level of criticism. *Children* have ideas about what is a good school and it does not seem to have any correlation with effectiveness as measured by researchers. What children mean by school effectiveness is a subject on its own and is tackled well by such authors as Ruddock et al (1996).

2.1.1 The effectiveness of a school as measured by researchers

Effectiveness is measured by researchers using multi-level analysis to determine the value added by schools. This takes account of some intake variables which are easily measured; free school meals and prior attainment usually, amongst others. It ignores factors which are not easily measured such as family break-up rate and student mobility. These factors affect pupils from travelling families, from the armed services and who are refugees from conflicts throughout the world. High pupil turnover is called

"Turbulence". Researchers also generally ignore the fact that they ignore these other factors. The effect of turbulence in destroying the relationships which underpin value-added statistics has belatedly been acknowledged by official English Government sources. Tabberer, from the DfEE Standards and Effectiveness unit is quoted as saying of schools which experience high turbulence "We accept that (target setting) is almost impossible but we do not want you to walk away saying targets have no point" Thornton (1999) p 2.

Effectiveness is difficult to measure, as Teddlie and Stringfield (1993) found. The second stage of their study followed eight pairs of matched schools throughout Louisiana. The pairs were formed of schools which

- Between 1982 and 1984 performed above or below the value added prediction for the catchment or well above or below for one of those years
- Had a matched opposite of similar geographical, economic and racial composition within the same school system.

These matched pairs were thought to be "outlier" schools; *particularly* effective or ineffective. However, one pair turned out, on closer inspection, to be of two ineffective schools. This illustrates the difficulty of detecting effective schools even when a high level of statistical skill is utilised. It poses questions about the value of the designation "effective" especially when Teddlie and Stringfield state that all of their researchers could tell the difference between an effective school and an ineffective school after a few hours observing children and teachers. Effectiveness as measured by researchers is problematic. *However it is the only measure which tells us whether a pupil would achieve more in one school than in another. It is the factor with which this programme is concerned.*

2.1.2 Parents' views on Effectiveness

Most parents cannot tell whether a school is effective for academic achievement as Smith and Tomlinson (1989) found.

> *From the whole pattern of findings, it is clear that currently parents cannot identify the schools that are doing well in terms of pupil progress. p 303.*

They also show that

> *satisfaction with standards of behaviour is an extremely important component of parents' over all satisfaction with schools p67*

and that parents do not require their child to be happy, or to be making progress at the school to be satisfied with its academic standards. Parental satisfaction is positively correlated with absolute attainment but not at all with the progress which the child is making. (p 164). Parents, however, hold non-cognitive outcomes in high regard (see, for instance, Grace(1995)).

The ethos of the school, the emphasis which it places on lifelong learning, on citizenship activities, the success with which it helps rescue the self confidence of damaged children, is under the influence of the head and staff, subject to the limitations of the culture of the area (see Metz (1998) and Gewirtz (1998)). This is often commented upon by OFSTED

teams but rarely taken into account. See Lightfoot (1993) for an appreciation of the value of, for instance, staff who become "significant adults" to children.

Dean (1998) reveals that an unpublished OFSTED report argues:

> *Most parents are very supportive of their child's school. Where there was dissatisfaction, no link was found to quality of education*

This was a result of the parents' questionnaires which precede OFSTED inspections, the results are therefore systematically biased in favour of those who return such questionnaires. One might speculate that this would include many who wished to support and few who wished to criticise the school. However, it reinforces the idea that parents either cannot detect effectiveness or that they have other priorities.

2.1.3 The examination successes of a school

These are likely to rise when increasing numbers of children join the student body in increasing numbers:

- from stable homes,
- with high prior achievement,
- with high self image and motivation,
- who are girls.

White, and Barber (1997); Gray and Wilcox (1995)).

Examination success is not closely connected with effectiveness as defined by researchers because a less effective school populated by children advantaged by birth and affluence will often have greater examination success than a school in an area of deprivation which is doing well against the odds; Gray (1996)

Logic suggests that there are only three ways in which to raise the examination success of a school.

- Excluding children who are likely not to achieve well
- Attracting children who are likely to achieve well
- Making it more effective with the existing children

The limits on making a school more effective are illustrated by John Gray (1996), who comments that:

> *Most schools, most of the time, obtain exactly the kinds of results one would predict from knowledge of their intakes. A few may do markedly better and a few markedly worse. p3.*

The findings of Sammons, Thomas and Mortimore (1997), on P 29 of their study on secondary comprehensive schools, indicate that most schools occupy a small range of effectiveness. But the range between the few highly ineffective schools and the few highly effective schools is less than the range between the achievements of schools in wealthy areas and schools in poor areas.

The examination success of a secondary comprehensive school would be expected to fall if, for instance, a local selective school were to increase its intake. Nothing which the head and staff of the comprehensive school could do in terms of effectiveness would stop

this influence towards lower results but local parents would perceive a lowering of standards.

It is not necessarily the case that achievement in cognitive and non-cognitive areas go hand in hand. Mortimore et al (1998) find that

> *the effects of school membership on non-cognitive outcomes were not highly related to those on cognitive areas. p 204*

Although it is widely assumed that ratchetting up the achievement in measurable cognitive areas will also produce good citizens, wise parents and thrifty workers, there is limited evidence that this is so. This casts doubt on the efforts to increase examination results whatever the cost. We may well pay a huge price later on as we turn out children from our schools who have not acquired many desirable social attributes in the pursuit of their five higher grade GCSE results.

2.1.4 Benchmarking school success

A third measure of the "goodness" of a school is how it compares with other schools which have a similar PANDA*(Performance AND Assessment document)*. The PANDA is a Government-created measure of the socio-economic status of the area. There are serious statistical objections to these PANDAS arising from the paucity of primary information.

For instance, the PANDA is derived from decennial data collected in the census and is only applied by electoral ward, not by postcode of pupil roll. It is thus out of date by between two and twelve years and may not even refer to the children who attend the school. The school is judged against the socio-economic status of the area in which it is situated and not on the socio-economic status of the students who attend it. Some primary schools in London gather children from up to 50 miles away; McCallum (1998). If the high socio-economic status parents choose to send their children out of the area (to private schools, for instance); or if low socio-economic status children come into the school from out of the area, sometimes because they have been excluded from other schools which are anxious about their league table position; these movements are not reflected in the PANDA. In either case a deterioration recorded for the school would be unjust. The results of a school may also be compared with other schools which have a similar proportion of children eligible for free school meals. The DfEE use the word "eligible" but in every case they mean those who apply and are granted free school meals. This excludes many children who may be the very children who are most deprived. For instance, many of the children of turbulence referred to above who are eligible for free meals would not have been able to claim this benefit before they move on. This is a source of systematic error.

Even if all the pupils who attend the school come from the immediate vicinity, not all children from areas of deprivation are of the same culture and we are again devoid of instruments to measure many important aspects of culture which may affect schooling.

Just one instance suffices to demonstrate that there are unmeasured factors which affect children's educational progress. There is now a large body of work about the effect of musical activity on cognitive development. There is an interesting first-hand account of this link in Carrick (1986) who writes about the benefits to children which accrue through belonging to a school band. Carrick, and later his wife, ran the music department at a dockyard secondary school in Bristol and insisted that every child learned a brass instrument. By the age of 16, 25% of the children were still playing in a concert band of some sort. The examination results for the school exceed the prediction on value added grounds and musical achievement may be one factor. The National Music Council (1998) cites research from Hungary, Switzerland and the USA to indicate that great intellectual gains are exhibited by young people who play music in some way. In communities with a strong musical tradition, children will not conform to the general picture which emerges from the value added indicators even where these are valid. PANDAS do not comment on effectiveness, nor do they predict how popular a school will be with the parent body.

2.1.5 The opinion of an OFSTED team of inspectors

A fourth measure of the "goodness" of a school is that obtained by OFSTED. This judgement is built up by a series of inspection processes over a few days (typically five) which aim to give a clear and accurate snapshot of the school and the value which it gives to those who attend. In practice, it is not a process which is subject itself to quality assurance and the basis of judgement has been questioned by many (see, for instance, FitzGibbon (1996) and Harris (1998)). The opinions of the team which perform the inspection are enormously influential and would be themselves influenced by the examination results compared with the PANDA but not by effectiveness. Effectiveness cannot be measured by the data which OFSTED inspectors collect using the processes which are available to them.

2.1.6 Conclusion about what is meant by "a good school"

Parents, children, researchers, and inspectors, all have different ways of identifying good schools. Of these four groups only researchers can measure effectiveness, sometimes making errors in doing so. The opinions of researchers are of little interest to anyone else because, if for no other reason, the schools which they research are usually granted anonymity. It would therefore be safe to say that no-one but researchers are, in practice, interested in effectiveness. The decisions which are made about schools:

- by parents; (to send their children to them)
- by children; (to attend them regularly with interest, determined to learn)
- by inspectors; (to put them into special measures or to declare them to have serious weaknesses)

are not made on the basis of effectiveness.

Teachers' prime concern is with effectiveness, however much they are pressured into behaving in particular ways to satisfy stakeholding groups. That is, their aim is to raise pupils' achievement to levels higher than would be predicted from a consideration of their previous attainment and their socio-economic status. This achievement must

include non-cognitive qualities as well as examination success. A school can be made more appealing to the various stakeholders without increasing the value added to any pupil's educational achievement. These techniques are not the subject of this report although they are of great interest to every teacher.

2.2 The Stability of School Effectiveness

We shall continue to consider effectiveness however, despite its difficulties of concept and measurement, because it relates to the progress which a pupil makes in school. The question of how long a school remains highly effective once it becomes highly effective is an important question for school improvers because if, for instance, once a school is effective it remains effective, this opens the possibility of a rolling programme of school improvement. Each ineffective school would be targeted in turn until it became effective. The average life of effectiveness would have to be of the same order as the length of the proposed rolling programme, otherwise the effort to improve schools will be negligible.

If, for instance, the life of a school in the effectiveness zone was, on average, five years, after five years we would expect all effective schools to need additional input to restore their effectiveness. If, at the same time, a programme to bring all schools up to standard was projected to last even six years, the improvement effort would never catch up with the work-load. Schools would gradually deteriorate. Our assumption, based on the argument above, is that professional development will assist teachers to become inquiring professionals who will raise the effectiveness of their work.

Professional development arises from many sources:

- Discussion with colleagues informally
- Discussion with colleagues in a structured meeting
- Coaching by a senior member of staff
- Personal reflection in action
- Personal study; reading journals and books
- Attendance at programmes designed to encourage professional development

Even making the assumption that the improvement effort *used* to be adequate in the early 1980s; the gradual cutting of the In-Service training budgets in Local Authority schools, with the progressive loss of one year secondments, one day a week secondments, fully funded higher degrees, and now almost any release time in some schools, has, perhaps, engineered a situation in which the effort of improvement is less than the rate at which schools become ineffective in the normal course of events. How quick is that?

2.2.1 How long does a good school stay good?

Scheerens and Bosker (1997) arrive at the conclusion that schools are remarkably stable from year to year. However, the evidence which they cite is open to other interpretations. As an example, they choose to quote Gray (1996) who investigated secondary schools over the three years 1990-1992.

Gray (1996) divided the effectiveness of schools over three years into the top quarter, the bottom quarter and the middle half. His results can be summarised in the following table which shows the percentages of schools in each of three effectiveness categories in one of the years of measurement:

Position in 1992 / Position in 1990	**top quarter**	**middle half**	**bottom quarter**
top quarter	15%	6%	0%
middle half	9%	35%	9%
bottom quarter	0%	9%	18%

The table adds to 100% and indicates to Scheerens and Bosker (1997) that "The table shows a lack of dramatic change" (p. 87). It is interesting to note however that, although 15% of the schools remained in the top quarter, 15% also dropped either into or out of the top quarter. This is a 50% turnover in two years which could not be said to represent stability. The figures for the bottom quarter are also both 18%. One third of the schools in the middle half in either of the enumeration years had been in or moved into, the top or bottom quarters in the other enumeration year. No schools swung from the top to the bottom within the three year period. This is more complex than their conclusion indicates and shows considerable change taking place.

Luyten J.W. (1998) researched the effectiveness of primary schools in the Netherlands. He analysed 13 000 test scores of children in 132 primary schools over a five year period. He used multilevel analysis to place schools into three categories: those which did not change significantly in effectiveness (52%); those which improved or deteriorated (33%) and those which both improved and deteriorated over the period (14%). What we know from that study is that the schools which comprised his sample do not remain effective consistently.

2.2.2 A summary of some stability data

Study	**Period of study**	**Phase**	**Findings**
Sammons, Thomas and Mortimore (1997).	three years	Secondary	6% out of 14% remained highly effective or ineffective
Teddlie and Stringfield (1993)	eight years	Elementary	50% of schools remained effective or ineffective
Luyten (1998)	five years	Primary	50% remain stable
Reynolds (1992)	three years	Secondary	a great deal of instability in effectiveness

It appears from these studies that whatever the period of observation, about half of the schools are in the original state at the end of it. Although the data above are about many states of effectiveness, the parallel with flipping a row of (in this case 10) coins between two states is compelling, the table below shows whether the coin is heads up or heads down after different numbers of tries:

←Coin number→										Try number
1	2	3	4	5	6	7	8	9	10	↓
⬇	⬆	⬇	⬆	⬆	⬇	⬇	⬆	⬆	⬆	1
										2
⬇	⬆	⬆	⬆	⬇	⬆	⬇	⬇	⬇	⬆	3
										4
⬆	⬇	⬇	⬇	⬆	⬇	⬆	⬇	⬆	⬆	5
										6
⬆	⬇	⬇	⬇	⬆	⬇	⬆	⬆	⬆	⬇	7
										8
⬇	⬆	⬇	⬇	⬇	⬆	⬆	⬆	⬆	⬇	9

Each coin is flipped each time, 50% of coins are in the original state (either ⬇ or ⬆) after any number of rows. This example, of course, is contrived and not random. There would need to be nearer 100 than 10 coins for a stable pattern to emerge by random flipping. Even in this pattern one could argue that coin 9 was unusually ⬆ while coins 1, 3 and 6 were unusually ⬇! If the ⬆ness of coin 9 resulted in a marginal increase in examination success and a decrease in visible bad behaviour, parents who were actively seeking a successful coin might send their children there in preference. This would result in popularity, lack of places for children excluded from 1, 3 and 6, and a subsequent increase in popularity. Increasing popularity in the English system brings greater income and more pupils who put the school as first choice. This gives the school greater opportunity to promote those policies which lead to effectiveness. Thus there are pressures towards stability, which would keep coin 9 more ⬆ than coins 1,3 and 6 which have nothing to do with teaching processes. However stability is not found by the researchers above to be a feature of the system. *This seems to argue that the forces which promote random variations are more significant than the strong forces, which are inherent in the market in which schools operate, which would tend to make effective schools more effective and ineffective schools more ineffective.*

Our interviews cast some light on what these random influences might be. See section 3.1.

2.3 *An evolutionary allusion*

There are many parallels between evolution of organisms and the changes which organisations make in order to accommodate to contextual influences and be fit for purpose. The palaeontologist, Gould (1993), tells us that for biological evolution to take place so that an organism might vary enough to ensure that offspring are available to meet current contextual challenges of environmental change there are two preconditions which are frequently ignored. These are:

- Redundancy of parts of the organisation; parts which are under-used, and
- Duplication; that is, two separate parts of the organisation which are capable of performing the same function

This gives the organism freedom to experiment over evolutionary time scales (which are shorter than have been thought in the past) in order to provide variation. The example which he describes is the transition of the redundant jawbones of a reptile into the ear bones of a mammal. Other organs could have developed to detect sound in the rarefied medium of air (snakes use their jaws and lungs for this function).

The relevance of this biological illustration is that, for change to take place in an organisation in response to external contextual changes, some person or group of persons have to have the capacity to take on additional duties. This is easier if some jobs are being done by more than one group anyway, or because some members of the organisation have the spare capacity to experiment. These are precisely the conditions which are sought out by those intent on reducing the tax burden on the rich as waste to be eliminated. The very tidiness of mind which is so commendable from the point of view of efficiency militates against adaptive behaviour in an organisation. Teachers in England (Northern Ireland, Wales and Scotland have different systems which no-doubt have their own pressures but which do not produce the disaffection at present felt by English teachers) are subject to pressures which, as our interviews show, are preventing innovation. See section 3.1.

2.4 *So! How can teachers raise achievement?*

2.4.1 Teacher as inquiring professional

There is little redundancy or duplication in schools so teachers trying to raise achievement have to find ways of working smarter rather than harder or for longer hours. What is needed is some attention to the results of research like Brookover's (1997), in order to improve technician skills, but each school, each class, each pupil, is unique. In order to make the most gains for each pupil there must be a constant inquiry about what has succeeded in the past. This data comes from reading the literature and from keeping records of personal, and team, achievements in the school. Each time something new is tried performance indicators need to be set with appropriate success criteria. Following the new intervention results must be looked for, both within the success criteria and without. It is important to gather the unexpected consequences of actions too. This is a complex and time-consuming task which can only be applied to selected actions and only if there is a gradual shift of pedagogic effort from teacher to pupil.

Because of the perceptions of external stakeholders in education, which are based, not on the effectiveness of the school, but largely on the background of children who attend, the teachers who need to raise the achievement of their pupils most are those who are subject to the most frequent peripheral interruptions to their teaching through unhelpful behaviour of the children and the high absence rate of their colleagues. They may not be those teachers who are least effective or who teach in the least effective schools. At present the education system in England does not acknowledge this situation and such teachers are frequently pilloried in the press and by OFSTED as failing in the task of educating their pupils.

The whole programme of study at Leeds Metropolitan University is posited on the idea of the teacher as a professional who is able to modify teaching skills and styles in the light of reflection on action. This embraces the idea of praxis. The guiding principle is phronesis, a moral disposition to act truly and justly. It governs how the result of the dialectic is applied in action. "Theory and practice (are) different but equal aspects of the same phenomena, each being capable of informing the other" Butt Townsend and Raymond (1990)

It is possible to envisage a paradigm of "teacher as technician" ("techne") in which a governing idea (eidos) informs the technician's actions in creating an artefact (education in this case) and that, although the technician may become more skilled, the eidos is immune from change and can be transmitted by trainers to those preparing to become teachers. This is a system of teaching in which there are assumed to be correct ways of conducting the classroom for maximum learning. This system would dictate, for instance, how long the teacher should wait after asking a question to allow answers to emerge (three seconds is thought to be the optimum). It is an area of professionalism in which external research is valuable. It is a paradigm to be found in many teaching handbooks and some dedicated to school improvement, for example, Brookover et al (1997).

Kvale (1996) weaves the paradigm of technician and professional together. Wisdom (Kvale says "Knowledge") is the ability to perform effective action and this arises partly from the "techne" and partly from the "praxis". It includes the creation of a teaching culture which is a "critical community of enquirers" and the conversion of teachers into "strategic thinkers". These are those, according to Carr and Kemmis (1986), who

> *plan thoughtfully, act deliberately, observe the consequences of action systematically and reflect critically on the situational constraint and practical potential of the strategic action being considered. p. 40*

At the level of teacher as professional the teaching-craft skills need to be informed and modified by the reflexivity to personal and professional learning experiences. It is the teaching of that reflexivity, and the effects on student progress of that reflexivity, which are being investigated in this dissertation.

2.4.2 A comment on schoolwide interventions

It is our assertion that the progress towards effectiveness in our rapidly changing society can only be achieved using the critical inquiring ability of teachers. Attempts to achieve effectiveness in the United States using imported, schoolwide, measures have only been evaluated as being successful by researchers from universities which stand to gain by their continued use and dissemination. Independent observers are not convinced. See Puma et al (1997), Pogrow (1998), Walberg and Greenberg (1998), and Wong and Meyer (1998). Our assumption is that a schoolwide initiative, initiated from the research of others cannot, on its own be sufficient to ensure progress towards effectiveness. The individual teachers must engage their critical faculties and begin to inquire into effective teaching, their research must be taken seriously by the leadership of the school, and they must be given scope by regulation to pursue their professional judgement.

2.4.3 A comment on performance-related pay

The recent Green Paper issued by the British Government on performance-related pay for teachers, DfEE (1999), describes draft threshold standards for teachers to meet in order to qualify for additional payments. The first of sixteen points is

> *Teachers should demonstrate that, **as a result of their teaching**, pupils are well motivated, and show a consistent pattern of high achievement in relation to prior and expected attainment. (our emphasis) (p. 38)*

Our participants have tried, with great difficulty, to demonstrate causality, to show that raised achievement follows *as a result* of intervention. They have also had great difficulty finding anyone who can corroborate their findings. They have shown by unsolicited comments, how inspection damages the healthy processes of classroom improvement.. Those teachers who have classes in which pupils are well motivated will have a great deal of difficulty demonstrating that this is owing to their teaching. Those who have pupils without much motivation are likely to have put a great deal more thought and effort into influencing their pupils to be more motivated with heartrending lack of success, and little recognition under these proposals for performance related pay. This is typical of the confused thinking about effectiveness which permeates government about teacher effectiveness. It seems from our research that it is unlikely to have the desired effect.

3. Effects of the Leeds Metropolitan University Raising Achievement programme

The data below in 3.1, about what difficulties teachers experienced in intervening to raise standards, illustrates how uneven the playing field is. Section 3.3 contains details of the interventions which teachers have actually tried over the three years in which the Leeds Metropolitan University programme has run. Because most teachers take a year or more to complete the cycle of action research (in as much as the messy processes of research can fit into cycles), most teachers have not yet submitted their finished reports. (18 out of 53 are complete and the deadline for a further 15 is during the AERA conference.). Some interventions have been successful, others have produced no evidence of raised achievement other than the positive feelings of the teachers. Some have no triangulation evidence. This is what we would expect from real research by busy people.

What is presented here is the preliminary analysis of the first 35 interviews conducted, transcribed and analysed, from the total of 53 participants who have passed through the programme since it began in 1997. The results of these interviews is a large pile of very rich data. The complete analysis of the data will include:

- comments about the completion rate of teachers who have enrolled on the programme and the factors which affect completion
- the evidence for raised achievement of children as a result of the programme
- the effectiveness of various methods of continuing professional development for teachers, including cost benefit indications
- the effectiveness of the techniques of reflective journal writing and action research as professional development
- the effectiveness of the techniques of reflective journal writing and action research as methods of raising achievement

Most of this is outside the scope of this paper which will concentrate upon the difficulties which teachers experience in becoming evidence-based practitioners and a preliminary view of the answer to the question "Does this help the children to raise their game?"

We are adopting the technique of letting the participants speak in this section. This results in a great deal of authentic quotation which we feel is necessary to justify of our comments. In pursuit of good research practice, the full text of all the interviews is available to any researcher wishing to check the context of quotations used, or to use the texts in different research with appropriate acknowledgement.

3.1 Difficulties experienced by teachers in completing the programme

3.1.1 Personal circumstances

Some teachers who set out on the programme had family circumstances which made study difficult. It is salutary to remind ourselves that not only teachers but also many of

our pupils in schools have difficulties at home which we cannot imagine coping with. Nonetheless, we all expect great things of both colleagues and pupils.

There are those teachers who did not count the financial cost of enrolling on the programme before committing themselves, with consequent complaints:

> *...and what everyone forgets is the sheer cost of babysitting... it costs us an extra £80-100 each time we have a session here, because of paying for the babysitting for the Friday night, the Saturday and the Sunday, and that's a drain, that's something that when you pay your money for the programme you forget to add on. No. 83*

To those of us leading in-service programmes this is a reminder that they had better be good because sacrifices are often made by the participants to attend. There must be many teachers who cannot afford in-service training, or who do not give it sufficient financial priority. If it becomes the norm for teachers to show evidence of self-funded in-service training in order to obtain promotion, as it is in many states in the USA, then greater priority will have to be given by teachers to this in their financial planning. Tax breaks, very limited for teachers in England at present, are an incentive which might encourage more expenditure on such training.

It is never easy to undertake training which takes time from small children:

> *The worst part is the time - it is obviously "work all day" and I have got a nineteen month old baby so any evening time is hard to give up but also I am doing two courses at the same time No. 68*

Many teachers complained of lack of time to complete their studies because of pressures at school. This may be considered as a lack of priority for the programme set against the immediate demands on their time of the various tasks of teaching and accounting for their teaching to stakeholders in schools. It is a confirmation that there is little redundancy or duplication in the system which is not geared up for teachers to act as inquiring professionals. Until a culture is created in which study is seen as an essential activity for teachers, this will continue to be the case.

> *I have been off work for five weeks, I have been in hospital so I have not been able to keep the journal up and since I have come back I haven't done it and I know I should have done but I just haven't had the time. No.67*

Long term sickness can have devastating influence on schools and on individuals. Staff in the schools which served the most deprived neighbourhoods commonly complained of chronic staffing difficulties, sometimes through ill-health and sometimes through recruitment difficulties to schools with low prestige (see section 3.1.2). Other teachers have personal difficulties and have to balance their commitment

> *Time and personal commitments and personal bereavements and a whole range of other things last term, it couldn't be done. So you know, you have to say "these are the things I can manage and things which I can't manage, and then say, later; right, okay! Now I can start again". No.87*

Too often teachers are regarded as people who do not have personal lives as pressures from stakeholders grow and conflict. There is little redundancy or duplication which

allows for the unexpected and each lesson is an experience for each child which will have a lasting effect and must be as good as possible. There is little space in many teachers' lives for experimentation or for recording of field notes or journals. Approximately 20% of our teachers recorded difficulties in fulfilling the demands of the programme because of family or personal difficulties. Teaching is a high pressure job in which there is little accommodation for personal circumstances. This is bound to influence fulfilment of personal and professional development which have to take second place to the needs of the pupils. Yet the literature review indicates the necessity to get research into the classroom to generate local solutions.

3.1.2 Staffing difficulties

One deputy headteacher in a school under "special measures" had two senior colleagues on long term sickness leave, one of whom had not attended for a single full week in three years. Another head of department in a school with 30 teachers reported that two colleagues, for whose work she was to some extent responsible, had long term episodic sickness leave. Sammons et al (1997) report that long term sickness was a strong correlating factor with ineffectiveness in a secondary school department.. There is little redundancy in the system to facilitate a return to work by those who have been sick and to enable them to catch up, even with the paperwork which has accumulated.

> *...when push comes to shove, I can have twelve staff off on a normal day from a staff of forty, that's the overriding pressure on that day, managing that day. No.98*

The pressures created by ill-health do not just affect the staff who are off. It permeates the whole establishment. Heads of department in secondary schools and heads in primary schools lose a great deal of time arranging work for classes to be covered by substitute teachers, the pupils obviously suffer as the potential for progress in understanding decreases with the absence of their teachers.

> *...back from the course, the proposals to rationalise school provisions landed on our desks and at that time there were proposals to close the school and amalgamate us with the primary school just up the road. So time was taken up with all the meetings and the parental concerns No.72*

School reorganisation may seem to be a rare event but three participants, all from different local authorities separated by hundreds of miles, were all involved in a reorganisation of some form. This teacher expresses a typical sentiment when she places the priority with the children first.

> *I'm working in a school that's due to close in a year. There are obvious disadvantages, people just aren't thinking long term really, but my main justification for carrying on with this (programme) is the children in the school. No.74*

The headteacher below,(No. 81), has an ideal future in new buildings but recognises that her work will be entirely occupied with coping with the move. In education no-one extra is drafted in to smooth out the move. The headteacher is the buildings manager, personnel manager, and educational leader who manages a tight financial budget and her personal time budget. This is not the time for action research into raising achievement, it is time for minimising disaster.

> *...coming into a new school, new buildings, the staff and pupils are going to be disorientated, it's going to take 6 months for it all to settle down. It is going to be a fairly major upheaval. No. 81*

Another 20% of our teachers reported dealing with staffing problems of such a magnitude that it disrupted their action research. One way of viewing this is that personnel issues are part of the job and that, in any job, professional development is necessary: teachers who encounter such problems should just get on with it. However, these teachers were used to the demands of their work before applying to the programme and applied after considering their current workload. They were taken by surprise by the events which occurred. It seems that staffing difficulties come in episodic waves which engulf even those who are prepared to commit themselves to the sort of extra demands which this programme entails. This does not only affect teachers but also the pupils who are being taught by teachers uncertain of their future or unconfident in their environment.

3.1.3 OFSTED inspections

In England, inspections of schools are carried out over a week or so by a team of inspectors selected from those who are qualified and who bid for the work. Each school in turn is put up for tender and, frequently, the lowest bidder is successful. The inspection report is then published (posted on the Internet and in other media). The event is stressful for teachers as can be seen from the evidence below that six teachers cited the inspection as grounds for falling short of the requirements of the programme and a further four left the programme as a result of an inspection notice. The inspections occur at intervals between four and six years so most of the participants would not have experienced an inspection in the relevant year.

Out of a total of 53 teachers who comprised the enrolment on the programme so far, these ten are a significant minority. If one fifth of the most motivated teachers (those who spend their own time on in-service training to raise standards) find the inspection mechanism so threatening that they discontinue with the programme for which most of them have themselves paid, its role in raising standards must be questioned. This is especially the case when the disruption which the teachers report is to a programme aimed at raising achievement.

> *... it is more important at the moment that we address issues from OFSTED than I specifically look at that specific groups of boys, which is what I was going to do. What it does mean is that I haven't started in any way writing my thing for university. No. 68*

> *I had to get a failed department through an OFSTED and I had to literally do things like completely write schemes of work, I had to write all the policies, I had to write absolutely everything bottom-up, I had to resource it, I had to stock it and I had to look at a development plan, No. 83*

One of the problems, which OFSTED is now addressing, is the two terms' notice which is given of an inspection. This allows worry and anxiety to build up. The perceived demands on the creation of paperwork in the statement above are typical of teachers' reactions.

> *Obviously you get quite a lot of notification for OFSTED inspections and when they (four teachers from the same school who subsequently withdrew from the programme) heard their school was going to have an OFSTED inspection, they decided their first priority was to do the extra work No. 85*

> *I mean that was the major reason. I truly believe that without OFSTED I would have finished my thesis. No. 85*

The preparation for OFSTED is in writing plans and policies to demonstrate competence and in planning to make sure that nothing goes wrong in the week of the inspection. Decisions have to be taken whether to show the inspectors innovative teaching or to demonstrate solid competence. There is a feeling amongst teachers that they will be criticised whatever they do.

> *we had OFSTED last term, which wiped us all out for the term. I mean we didn't do any Leeds work, we were all preparing for OFSTED, being OFSTEDed, getting the OFSTED plan. And as curriculum deputy, my job was to do that, it was not to do (Leeds Metropolitan University work) at all. No. 86*

> *...from the time we had OFSTED last term until Christmas, that's all I did. I didn't do anything else ...No. 88*

The teachers quoted here account for all but one of the teachers in our enrolment who experienced an OFSTED inspection during the year of the programme. It is a significant indictment of a process designed to force up standards that the reaction of the vast majority of teachers should be to shut down all development activity in this way.

3.1.4 Organizational difficulties

One theme, to which we return later, is that teachers work in isolation. In Luyten's' words they have the appearance of "independent professionals sharing a heating system" Luyten (1994). Our attempts to verify what teachers were telling us by interviewing other staff within the same school (see section 4.2.2) turned out to be unsuccessful. Even the leadership teams in most schools seemed to be unaware of the extra work being done by their teachers.

> *my intervention was to promote assessment and reporting in PE, and then my school decided to change the reporting system and we were given new formats for reports which we do in February and I was given a one inch box to write in for each child, and that was their main report for the year and I just laughed and said, "I've spent 6 months doing these extra things, what can I say in an inch?", and I didn't think that February was the best time for me to report anyway No. 73*

Where the leadership team were appraised of developments, their reaction was not always to praise and to accommodate:

> *Question: "And how about your colleagues, have they said anything to you, that you have changed in any way since you've done the course?"*
> ** No, no. I've just got (heard) that the deputy wants me to do a write up for the Teacher Training Agency to try and recoup some of the course fees. That's about the only credit I've got for doing it. You know, it's pretty much the way things go isn't it?! No. 75*

Not all headteachers (principals) are considerate in helping their staff to organise their time:

> *...the Head said 'just prioritise' - I said 'there is absolutely no point in me prioritising because I haven't got time to do my first priority'...because the list does not become any shorter in this school...I am the assessment co-ordinator and she doesn't like figures, so I can literally be in the middle of my literacy hour with children hanging on every word - because I also do expressive arts so we do tend to have rather exciting literacy hours - and I can have the Head come in and ask me for a set of figures from 1997 on a rolling programme. No. 66*

and some headteachers themselves have demands made upon them which make their time management problematic:

> *I literally haven't had time. I very seldom leave the school before 6 o'clock and if you take last week, I had to sit on an interview panel so I was away from school all day on Tuesday, I was at an In-Service Course on Wednesday and then I was called to another meeting on the Thursday morning. One was in town X which is about 80 miles away, the In-Service Course was in town Y which is about 50 miles North and the other was in town Z which is 80 miles South. That meant 3 days out of school. This week I had a school board meeting, on Tuesday, 7.30pm 'til 9.00pm, I was in school from 8.30am in the morning 9.00pm at night with only half an hour out to get something to eat. Yesterday, all day I was at a head teachers' meeting, I'm going out to a meeting again tonight to do with this rationalisation procedure and tomorrow I am supposed to be off to Town Y again to go through the Resource Network, now with a timetable like that, plus my family health problems...No. 72*

English teachers are expected to have acquired computer literacy over the last ten years. This is quite explicit in the regulations for new teachers in training, but little or no time has been allocated to serving teachers to acquire the necessary skills. There are also hard- and soft-ware problems because teachers frequently have neither offices nor computers to use at work and there are no tax breaks for a teacher to use home as an office nor to purchase a computer for school work at home. Some teachers went to significant lengths to use a computer:

> *...and I don't have a computer at home, or at school at time where can I use one, so I had to come in early at 7 o'clock to use the school one before students want to use them. No. 94*

This was a teacher who was unable to word process at the beginning of the programme but who now submits work in word processed form.

It is not only the teachers who have difficulties in raising achievement, it is easy to forget that pupils have other demands on their time which are often part of the cause of the problems of low achievement.

> *... they find the Saturday Study Skills Days a difficult concept, but I think they opt out because of other pressures, because they've got a cleaning job and they can't get to school until they've done a cleaning job in another school, and on a Saturday they've got their job at the market and they can't have a day off or they'll lose their jobs, so there are pressures that we can't actually influence at all. No. 98*

In other schools they had run holiday programmes for pupils, after-school programmes for pupils, lunchtime programmes for pupils. In each case some pupils could not attend

for urgent family or job reasons. In England it is easy to lose sight of the family responsibility for education as pressures mount on teachers, particularly those who serve pupils in the most deprived areas. Nevertheless, it is these pupils whose futures are most important to us. If they finish up not working or in custody, rather than as tax-paying citizens, we are all the poorer.

3.1.5 Difficulties intrinsic to the job of teaching

Our participants all had to cope with the difficulties of integrating their reflective and interventionist activities into their normal lives in school. Each was told that the reflective journal was school work and should be done in school. Each was told that reading was an essential pre-requisite to successful research.

> *...but as soon as we got back into school, I think that everything just closed in as it always does, and the realities of the situation hit home and we think, "oh my goodness, how can I possibly do something else on top of all of this?"... in a small primary school you're the only promoted person, there is no one to delegate to, you end up taking on everything. No. 69*

The Leeds Metropolitan University programme encouraged participants to find ways of working smarter, rather than harder. One way which was suggested was to delegate, to pupils, tasks which previously the teacher had done. Efficiencies in handling paperwork were suggested. Some work every day on the programme was advised but some found it difficult for whole periods of time:

> *...you've got too many other things to do in the summer term, like if you're involved in statutory assessments, they're all in the summer term. You might be involved in development projects for the next year and obviously with report writing and parents evenings, and for a lot of schools, summer term, again its trips and sports days. No. 74*

and the suggestion about only handling a piece of paper once was difficult for the named teacher for child protection. The social services aspect of teaching carries an urgency and importance which relegates other activities to the sidelines.

> *(The programme leader) has got a thing about the virginal state of a letter, only handling a piece of paper once, - that doesn't work for me because I am a child protection co-ordinator as well and if I get a child protection letter it has to be opened there and then no matter what I am doing because it might be telling me that I have got to make sure a child doesn't go home with a parent in the next 5 minutes. No. 66*

Politicians who wish to see schools improve in order to ensure re-election to democratic office need to understand the pressures on teachers. Many of them are self-generated out of concern for the particular pupils and for their home circumstances. Many are in response to perceived pressure from inspection or from headteachers who also are under pressure to deliver what they consider the impossibly conflicting demands of various stakeholders. Some pressures arise from personal and family circumstances and some arise out of teachers performing badly. Few of our participants fall into the latter category but we can understand that, in some of the schools where our participants work, the context can produce an ineffective, disillusioned teacher out of an effective, enthusiastic one. Despite these difficulties, many teachers made successful interventions in their own judgement. Demonstrating that they had done so was more difficult, as we explore in the next section.

3.2 Difficulties experienced by teachers in demonstrating raised achievement

3.2.1 Producing data to support teacher's judgements that achievement is rising

The programme leaders at Leeds Metropolitan University were careful to keep restating that the important must be made measurable rather than the measurable being considered important (attributed to McNamara). However, when the government, OFSTED, parents and children are all convinced of the value of examination results, it is difficult for teachers to consider other indications as being as important. There is a tendency for undue emphasis to be placed on any test results.

> *...the data (GCSE results) won't be available until the middle of August,... I've got my doubts as to whether I can (complete the assignment) unless I choose to ignore evidence or not count factors. I think it's actually going to be rather too simplistic at the end of the day, but I hope to make it an interesting discussion and I'll look at what happened, maybe just to check if* ***my own perceptions and my own prejudices are born out by any objective data****, not that that's the only thing that counts. No. 75 (our emphasis)*

Teachers' perceptions are important and frequently reliable, but we urged them to try to find supporting evidence. There is a great temptation to wait for external examination results:

> *I think it has had an effect, but I don't think we can measure that until, let's say, later this August. The examination results will not be out until August. No. 86*

Running controlled experimental situations in schools is notoriously difficult, frequently, no control group can be used as in this example:

> *I can't compare them to anybody else in the year group so all that it can be compared to is previous results No. 68*

This teacher continues to illustrate one of the difficulties of raising achievement of boys and seems to us to present hard evidence of success:

> *...and the trend is, boys are slipping really badly, and yet speaking to the boys about their perception about what is happening - they believe that the boys are way outstripping the girls. I have explained the situation to them and it has had an interesting effect because some of them have taken it very seriously. I have got boys who are taking home writing exercises to improve their handwriting and I have got contacts with boys' parents who are doing extra reading with them just because they need it - they are trying to take it seriously. No. 68*

All that is needed in that situation is some data to record the extra work, the requests for handwriting and reading, and to record the lifetime of this flurry of activity to see for how long this explanation to the boys is effective.

The programme leaders emphasised that although successful interventions were very rewarding, success in raising achievement, or in demonstrating raised achievement, was not necessary for the completion of the programme. The teacher below was in receipt of conflicting evidence:

> *children are beginning to know the facts more easily and quickly. Also I devised a very basic questionnaire for the children, just for them to put in ranked order the subjects that they did at school a) to see which subjects they liked best, to put them in order 1-10, and then b) to write down which subjects they thought they were best at. I've done that twice now, at the beginning of the intervention and then just recently so that we could compare them and see if their perceptions of maths has changed during that time and it's a bit inconclusive unfortunately. Also the other thing I was going to look at was National Test results to see if that had improved, and certainly from August through to February, all children that had any tests in maths passed them, so there seemed to be improvement there but just since the last week, a group was doing Level B National Tests in Maths, very able children were not doing as well as we'd expected them to. No. 69*

This teacher was very disappointed and puzzled to find that not all was going well. This is not the only teacher to report inconclusive results. Even if the results were that the intervention had failed, the positive results of the programme, in terms of embedded skills in action research and reflection, persist. One more teacher is basing intervention on evidence and using the results to affect future teaching content, technique and style.

A teacher who is a head of year (Counsellor) found that the support which he was trying to introduce for pupils in their time- and study-management might be perceived by other teachers as unprofessional and threatening.

> *One of the things that I will have to do in my research is ask the students their opinion about tutors, but it can be quite a personal thing. I don't want to race in and upset people, I'd rather carefully think and do a smaller, more well thought out study, with more modest ambitions, than race in and cause offence or upset, because I've tried to do it in a rush. No. 75*

This demonstrates that not every intervention which seems to be a good idea is profitable. There has been little movement in this teacher's intervention so far, but there may have been significant gains in making ethical considerations overt and in discussing them where assumptions have remained unspoken and unchallenged previously.

Some interventions have produced tangible improvements in terms of new ways of teaching a subject which have enabled pupils to understand better and to perform better. In one case the teacher introduced a new dance teaching methodology throughout her department. She was able to compare one group of pupils with an older group who had experienced the previous methodology and show that there had been improvements independent of any difference in prior attainment:

> *I taught one group of students who actually worked on the booklet and one that didn't. The one that worked on the booklet had more understanding of basic dance analysis, so there was proof there, but the first set of GCSE children who used that pamphlet and used that approach are just our Year 10s now, so as far as real statistical proof whether it has directly affected our GCSE grades, which is what our outcome was to do, I won't know that until next year. The signs look good, they have a better understanding of basic dance concepts, and dance theory concepts which they didn't have at all, and I know that when I've discussed it with students who've gone through our system without this approach, they've said that they can definitely see the benefits of incorporating such an approach, No 82*

Some interventions were designed to change colleagues' practices rather than have a direct effect on pupils. When our researcher asked No. 88 whether he had been successful in raising pupils' achievement he said:

> *I would have said six months ago that was a very difficult question to answer. I was a bit of a sceptic. I thought, I'm doing this for myself really more than anything else, how this affects me, affects me and my colleagues, it doesn't really affect the pupils. But it is having a quite drastic effect on the pupils even though they don't actually realise it. Pupils in that class upped their national curriculum by two levels and that's because we've changed how we're teaching IT No. 88*

One of the changes in participants is towards the W Edwards Deming philosophy of using rich data to manage any organisation. These data do not have to be numbers on a piece of paper as this participant knows:

> *...we do now collect lots of data, that's one of the things we got from the course, if you really want to know the effect that you have on children you have to have some way of measuring it - not just a gut feeling. So, the one thing it has done, it's brought in all sorts of ways we can now actually benchmark or measure the levels of attainment the children have. We set targets for both staff and the children in terms of what we expect as an outcome...I can't give you a measured outcome of that yet but certainly I would say that we are seeing huge improvements in Maths and English but English particularly...Her Majesty's Inspectors were in two weeks ago and say that they can see a difference in the level of attainment in the school so they would share my opinion on that. Oh, it's definitely working, yeah! No. 96*

That headteacher works in a school in special measures, so does this deputy headteacher who is the one mentioned earlier with two senior colleagues on long term sickness:

> *We increased the pass rate. We've definitely increased staff awareness because, prior to this, staff were not using any data, except subjective personal assessment data, until we actually started this approach, and now they ask more and more. In fact one of the debates we're in at the moment is how much of the data do we use? Is there data we don't give people? No. 98*

Some judgements do not lend themselves to "Objective measurement" but they are nonetheless important and a subject for rejoicing as these two teachers tell:

> *this programme has opened up a few pathways for new initiatives for me to try with them, which has paid off in a number of ways in that it has raised their self-esteem, it has raised their academic ability and it has raised their status within the class and it has also subdued a lot of the behavioural problems. No. 67*

> *Well that's where I'm having my problem at the moment because it is very much personal and social development, it's very difficult to assess. I know it's happening, I know I have a happier school, I know I have good relationships with the children, better relationships with the children, I have children who come and talk to me, I have staff now who open up to me, we are friends, we're not just colleagues anymore. But it is very difficult getting a measurability to put against a personal and social development thing. In the process of all of this, I've written out a personal and social development policy, it's been accepted by 5 other schools that we work with, but I find the actual measurability of it very very difficult. No. 70*

Presenting hard data to demonstrate raised achievement is not always easy or even possible. The judgement of a teacher conducting his or her own investigation is important. Undoubtedly there is some dissembling even when accounting to ones-self. There is not always entirely positive progress to report, the important thing is that the process of action research and reflective practice have been embedded and that this is a sustainable methodology which does not then rely on external expert assistance for continuing the school improvement effort.

3.2.2 Triangulation difficulties

Participants on our programme found difficulty in obtaining triangulation evidence about raised achievement by their pupils. It is difficult to approach the same achievement with two different measurements. Perhaps an external inspector comes in and comments, in a quotable way, about some achievement which has been measured by a test or which has resulted in a definitive change of behaviour. Perhaps parents have commented. However this difficulty in triangulation was mirrored startlingly in our attempts to obtain independent evidence for what teachers were saying in their interviews. This is one example. The teacher here is describing an intervention which he undertook to improve the GCSE pass rate and points score average of another teacher. The problem which this other teacher (92b) was having was that pupils would do coursework for the examination and then lose it...

> *The problem he always found, especially with pupils doing coursework, on paper, they would lose scraps of paper and they'd hand an assignment in with half of it missing because they'd lost it. Using the computer he found they didn't lose it because obviously it was always saved and it was backed up. He has increased their coursework grades because they didn't lose half their work as well. No. 88*

We interviewed teacher 92b to secure independent corroboration of what was being said here. In response to the question

> "OK. So have you, personally, been involved in any intervention that your colleagues are putting into practice?" teacher 92b said:

> *Not particularly. (He talks about another initiative within the school which is nothing to do with the above) I may well be wrong, it may be something completely different, but I'm presuming that this is part of the Masters course. No.92b*

Quite clearly the second teacher has no recall of the intervention which led to his increased pass rate and points score average, considering it perhaps, as "Just part of the IT co-ordinator's job". The intervention was independently corroborated later by another member of staff, but this is an indication that teachers' lives are very complex and recall is not necessarily to be relied upon when it is not important to the teacher concerned. We were trespassing on teachers' valuable time, distracting them from their core purpose. 92b acknowledged his knowledge was limited of what his colleagues were doing:

> *I mean, it's very difficult for me to say, because I know of a number of colleagues who are doing the course, who are on the course, but I'm not really informed as to what aspects of the course they're doing or what they're focusing on. As far as the details of what's going on the course are concerned, I've no real idea at all. No. 92b*

Some participants knew there was no point in interviewing their colleagues. Is there anyone else we can talk to?

> *No, because they have not really noticed because I think a lot of the things are quite subtle, they do have a respect for my teaching and they know it is a very difficult class and they know I can handle them, so its only what they expect of me really. No.67*

One headteacher would not want colleagues to be aware that an improvement was owing to a particular initiative which was initiated and evaluated in response to a Leeds Metropolitan University programme:

> *...we did something the first time and this time we're doing it differently. I don't think they'd reflect on that in terms of the course I've done or the intervention as such, they'd just see it as the global practice of the school, which is how I'd want it to be in actual fact. I don't want it to be because I did a project, I want it to be because I care about the professionalism in the school. No. 98*

The interviewer, whose background is in nursing, was taken aback at the lack of knowledge about colleagues' work in teaching:

> *The others didn't really know anything about their colleagues' interventions. I asked a few participants if I could interview somebody in their school and they said, "They don't know about my intervention". It seems to be like some of them are actually doing the intervention in isolation. (Interviewer)*

These comments support that view and shed light on the loneliness of the teaching task. Do teachers work in teams in any meaningful sense if one teacher is unaware of an intervention to raise achievement mounted by a close colleague, if indeed, he is unable to recall an intervention which has helped him to raise achievement? This limited evidence is far from conclusive. However, it seems to be likely that any introduction of performance-related pay may discourage teachers from assisting in initiatives of colleagues if they suspect that the initiative is for the purpose of gaining financial advantage rather than for the genuine assistance of pupils.

It is difficult to approach the same achievement with two different measurements. Perhaps an external inspector comes in and comments, in a quotable way, about some achievement which has been measured by a test or which has resulted in a definitive change of behaviour. Perhaps parents have commented. One teacher described how difficult it was to get pupils to comment on her improved teaching technique:

> *But, it is very difficult getting feedback from them because they have got nothing to compare it to, nobody has ever asked them to learn to read before...So, these children are not going to come and say it is better or worse because they have nothing to compare it to. No. 66*

Teachers tried hard to secure triangulation and this is an example of what one teacher did, avoiding testing, but asking the opinions of different groups and checking records:

> *I am also going to interview staff - and that includes dinner staff (campus aides) as well - as to the boys' behaviour and see what their comments are because they know what I am doing. I am also going to go back over the records that we have got for the number of positive behaviour certificates they have got and also the number of "serious consequences" (for bad behaviour) they have got. If my intervention is working then the*

> *number of certificates should have gone up and the number of serious consequences should have gone down. No. 67*

Another participant gained unwitting corroboration:

> *There has been some positive feedback in the things that I have changed both from colleagues and from parents so they haven't gone unnoticed. No. 73*

And independent inspection provided some triangulation for one of the participants who did not cite OFSTED as a problem:

> *What we did have, however, was the triangulation from OFSTED who were very complimentary about the work that had gone on and were certainly acknowledging that it was a worthwhile experience to have done the work, No. 96*

3.2.3 Summary

In the examination of school effectiveness stability we argued for the existence of factors promoting instability which were larger than the considerable factors which promote stability in effectiveness. This section gives indications of what some of these could be. Family and personal health issues for a subject leader or headteacher might have significant effects on the maintenance of high effectiveness, as might a new, enthusiastic, leader have a positive effect. The closeness of the working relationship between teachers 88 and 92b in section 3.2.2 above enabled one to achieve more because of the shared expertise of the other. Harris (1998) indicates that an individual secondary school department can be effective or ineffective dependent on the attitude of the leader of that subject. Working relationships between professionals are fragile at times and a change might endanger or encourage effectiveness. Many of our sample were teachers working in such isolation that they could not name one other teacher who was aware of what they were doing enough to comment. The creation of a learning community in a school amongst the staff might be one factor which influenced a school towards effectiveness. Quite clearly, the threat of an OFSTED inspection, whatever good it might do, also damages the efforts which teachers make to respond to current context by changing their behaviour in appropriate ways.

3.3 Does this help the children to raise their game?

The most important part of this report is to share the gains which teachers have recorded for their pupils. This is a summary of the work of the first eight teachers to complete the University assessment from our first cohort. As such the examples here are unusual; the participants suffered the pilot version of the programme teaching, which was without charge, and completed the intervention, evaluation, and write-up in just over six months. However, they must represent the more enthusiastic end of the teaching profession to take on the responsibility of joining a pilot programme. They came from highly regarded and poorly regarded schools, from high socio-economic status areas and from low socio-economic status areas. They were biased towards the younger end of the profession but included two experienced deputy headteachers. Seven of this group of eight are women. It is not unusual to find women in the majority on our in-service programmes. There has been no selection in these examples apart from the self selection of who chose to join the

programme and who were able to complete it in the short time. The indicative list of interventions which our participants have undertaken or are undertaking is given below:

3.3.1 List of interventions to raise achievement

1. Using role play with Key Stage 1 children to enliven the literacy hour
2. Improving boys' handwriting in Key Stage 3 to raise self esteem
3. Improving mental maths by daily exercises and rewards in primary (several participants)
4. Recording tangible progress in detail in physical education in Key Stage 3
5. Changing syllabus and assessment techniques in Information Communication Technology throughout a secondary school
6. Helping pupils to become more organised through pastoral care in secondary
7. Evaluation and monitoring lessons in secondary (several participants)
8. Controlling noise levels in a secondary science department lessons
9. Using Success Maker with Key Stage 3 pupils
10. Teaching theory and practice side by side in dance lessons in secondary
11. Improving the organisation of investigations in science in secondary
12. Improving boys' performance by reward strategies and teaching style changes in secondary (several participants)
13. Mentoring of pupils at risk in primary
14. Introducing thinking skills into Key Stage 3 science lessons
15. Home involvement in homework in secondary (several participants)
16. Teaching physical education to single sex groups in secondary
17. Improving speaking and listening skills in Key Stage 4
18. Mental maths exercises in Key Stage 2
19. Introducing alternative assessments to GCSE
20. Running a holiday school for GCSE pupils
21. Introducing target setting (several participants)
22. Improving the confidence of teachers taking music lessons for primary pupils
23. Introducing a behaviour management system into primary

The full impact of any intervention is not limited to one particular cohort of pupils however:

> *for example, take a person who's introduced ... for dancing, just for one class, for example, as part of her intervention. Because the results were very good, the feedback from students was good, then she introduced it to other classes as well. So it started with a pilot, it started with an interventi. n, and the results were good, so it applied to everyone else in the school. And quite a few are like that; quite a few of the interventions have been very good, very effective, and it's become part of the structure of the school program. (Interviewer)*

3.3.2 Geographical Awareness (Primary)

A recently qualified teacher in a primary school which has high achievement was given responsibility for the co-ordination of the teaching of geography. She decided that the teaching and learning in lower Key Stage 2 needed her attention, particularly as there was

another newly qualified colleague who needed support in that age group. She aimed to increase the children's understanding of the local area and to develop questioning and enquiry skills. At the same time she hoped to raise the quality of the teaching generally in lower Key Stage 2. She concentrated her efforts in introducing geographical questions into the curriculum which

> *didn't necessarily have written answers. (The teachers) said that they hadn't realised the effectiveness of asking questions to raise children's understanding of geographical aspects...*

Although she only rates her success as partial, there were certainly gains for the teachers and for the children. She has outlined a strategy for pursuing the work in subsequent years.

3.3.3 Mathematics (Primary)

Two teachers in the same school tackled the teaching of mathematics. The stated problem was

> *How do we raise achievement in mathematics in an already high achieving school?*

This is a small school and raising achievement in mathematics is one of the main parts of the school development plan. Both teachers worked on investigations and mental arithmetic and spent time finding out how children chose to solve problems rather than giving them methods to learn. As a result many new methods for solving problems were learned by the teachers and communicated to their colleagues at a weekly staff meeting. Children were able to use the mental methods which they used in their written calculations and this enabled them to experience greater success as they began to understand the process rather than just learn a technique. The dissemination to other staff of the discoveries was felt to be a singular success of the project.

> *There is now an agreement that allowing children to explain their ideas helps to raise their achievement in mathematics.*

3.3.4 Music Teaching (Primary)

In a primary school whose OFSTED inspection had left three points for action which all began "continue to..." how do you improve? The music co-ordinator decided that improvement was not only possible but also necessary. She identified the areas of composition and ensemble work as in need of improvement and issued a questionnaire to all staff about the subject. She discovered a lack of confidence.

> *If teachers were not performing confidently then surely they weren't teaching as effectively as they could and children would not be achieving their learning potential?*

After performing a variety of different interventions to raise the standard of children' performance in music at Key Stage 2 and to raise the confidence of teachers she writes

> *My interventions have not only helped my Key Stage 2 colleagues to gain knowledge, skills and understanding in the teaching of music, but it was also developing my skills and role as a senior manager.*

3.3.5 Paired Reading in Key Stage 3

In a school where performance is well below the averages across the country, this teacher decided to concentrate on a group of five Year 7 children whose reading was between four and five years behind their chronological ages. She set up a paired reading scheme which operated at lunchtime in which an equivalent number of Year 9 children would read with the children. The Year 9 children were chosen because they were all in need of extra attention themselves because of poor attainment and behaviour. One assaulted a teacher during the intervention and another had a parent die in poverty. Two of the five subjects were boys but all the helpers were girls. All the readers kept a reading diary and the helpers wrote a report about their progress. One helper wrote:

> *"The report I wrote was the best piece of work I have done all year"*

The readers made progress in their reading ages, averaged at eight months during the four months of the intervention. The helpers also benefited from the intervention. One girl was taken off the head's "poor behaviour" list and another received her first good school report. The intervention will continue in 1997-8 and has captured the interest of senior management in the school.

3.3.6 Dance Theory in Key Stage 3

In a school with generally low attainment but with a specialist dance teaching facility a teacher decided that there was a serious problem of under-achievement in the theory of dance. She designed an intervention to teach specific theory to children in Year 7 and to compare their performance with that of a Year 8 group who continued to absorb the theory through practical classes according to the practice of the department. The teacher designed and produced a highly professional work book in colour with outstanding graphics for the children to use. Each lesson began with a theory exercise. Two thirds of the children in the Year 7 group out-performed all of the children in the Year 8 group at the end of the short experiment. A feature of this intervention was the involvement of the students in the development of the materials.

> *Pupil feed back was exceptionally useful as it helped me to identify areas which needed to be addressed...I decided to incorporate some of the pupils' suggestions*

3.3.7 Oral English in Key Stage 4

A school where most of the students have an unwritten first language is not the easiest place to get students to pass GCSE examinations. The English teacher had wanted to improve the teaching (and, she hoped, the acquisition of skills) in oral English. Her intervention involved working with less confident colleagues to pass on to them the teaching techniques which she had found to work. Both the other teachers claimed to have benefited from the experience, learning new skills in oral delivery and in getting students to participate in active, structured oral exercises in class. The students were found to work with more motivation, particularly some who had special needs in this area. Although it did not have the same effect on some disruptive students. The teacher ran an in service session for her colleagues which she would not have done without the

stimulus of the programme. She felt that this was something new which might cause a change of culture amongst her colleagues. She expressed the feeling that more staff might be inclined to share their practice with colleagues as a result.

> *At first he was anxious about the task but after he watched my lesson as an example, and he saw the material in operation, his worries disappeared.*

Changing the culture of teachers to accept the necessity for continuous renewal of skills and re-examination of technique is one of the important pre-cursors to raising achievement.

3.3.8 Vocational Education in Key Stage 4

In an under-achieving school in a poor neighbourhood setting a deputy headteacher decided that her colleagues, particularly the heads of department, were content to ignore the 15% of Year 11 students who were not entered for GCSE, and the 22% not attending, and just count the success rate of those who took the examinations. She decided that the solution lay in persuading her colleagues that vocational qualifications would be worth trying to give these students the chance of achieving some examination success. Her performance indicators were therefore about changing attitudes of teachers. She rated the intervention a success (this was confirmed by her headteacher) on nine counts related to her initial objectives. In this case the results for students will not show up for some time.

> *It will be the year 2 000 before any results of pupils' achievement in vocational courses at pre 16 are available but the important factor is the total acceptance by heads of departments for a change of curriculum with a view to raising achievement*

3.3.9 Summary

This self-selecting group of teachers have made interventions which, to varying extents, are raising the achievement of their pupils. Some of them are also influencing their colleagues to do so. Some of them now have embedded within themselves the skills of action research and reflective practice. These are positive results, of varying quality and impact, which encourage the programme leaders to continue with the provision of the programme to manage the raising of achievement. Most of these improvements are likely to improve the effectiveness of the schools in which they occur and they would please many of the stakeholders whose priority is not school effectiveness.

4. Recommendations for school improvement

Because this is an interim report which does not take account of all our data this section will be brief for fear of drawing unjustified conclusions. Our interim recommendations are that:

- Local research by teachers into their own practice is likely to be a necessary condition for sustained school improvement
- The creation of a community of inquiring teachers in a school would help to share good practice and to raise achievement. Headteachers and principals should give priority to this. Any moves towards performance-related pay should be made understanding the likely negative impact of perceived competition for higher salaries and should build in features to encourage co-operation.
- Schools which are serving disadvantaged areas are likely to be achieving lower standards of examination results than schools in areas of high socio-economic status. The teachers should not be vilified for this but given additional resources and encouragement to become inquiring teachers.
- None of this report has dealt with the issue of teachers who would not voluntarily engage in In-Service training. It is likely that these teachers would behave differently following the same programme. Some way to reach these teachers and to encourage them to become inquiring professionals is likely to be necessary if sustainable school improvement is to take place. Consideration should be given to the introduction of tax breaks for teachers who buy their own computers or who pay for their own In-Service training.
- Urgent thought needs to be given to the issues of sickness and teambuilding in teaching. Long term or episodic sickness and the lack of co-operation in teaching seem to be a major influence on school improvement efforts.

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